REMARKS

Claims 1 and 2 have been rejected under 35 U.S.C. 102(e) as being anticipated by Chong et al. Claim 3 has been rejected under 35 U.S.C. 103(a) as being unpatentable over Chong et al. in view of Ramakrishnan. Claims 4-11 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Chong et al. in view of Ramakrishnan and Fox. Claims 4-11 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Chong et al. in view of Ramakrishnan and Fox. Claims 12-17, 19 and 21 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Chong et al. in view of Fox. Claim 18 has been rejected under 35 U.S.C. 103(a) as being unpatentable over Chong et al. in view of Ramakrishnan and Fox.

No rejection has been applied against claim 20.

Claim 1 recites a computer system that comprises:

-a local bus,

-a host processor coupled to the local bus,

-a network interface for providing an interface between the local bus and a network medium, and

-a memory coupled to the local bus, the memory having receive buffers allocated for receiving data from the network medium.

The network interface includes an automatic flow control mechanism for automatically controlling a flow of data from the network medium based on availability of the receive buffers.

To more clearly define the claimed subject matter, claim 1 has been amended to recite a flow control mode signal. When this signal is at a first logic level, a first flow

control mode is initiated. In this mode, the automatic flow control mechanism is configured to respond to a shortage of the receive buffers by automatically requesting a remote transmitter coupled to the network medium to suspend data transmission until a predetermined number of the receive buffers is available

When the flow control mode signal is at a second logic level, a second flow control mode is initiated. In this mode, the automatic flow control mechanism is configured to respond to a shortage of the receive buffers by automatically requesting the remote transmitter coupled to the network medium to suspend data transmission for a predetermined time.

None of the references of record teaches or suggests the claimed flow control mode signal for controlling modes of flow control operations.

Claim 4 has been amended to make it dependent from claim 1. Claims 2 and 3 have been cancelled.

Claims 4-11 dependent from claim 1 are defined over the prior art at least for the reasons presented above in connection with claim 1.

Independent claim 12 recites a network interface device for providing an interface between a data network and a computer system, the network interface device comprising:

-a descriptor management unit for managing receive descriptors pointing to receive buffers allocated to receive data from the network medium, and

-an automatic flow control mechanism for automatically performing flow control in accordance with the number of available receive descriptors pointing to the receive buffers available for receiving data from the network medium.

The Examiner admits that Chong does not disclose a descriptor management unit for managing receive descriptors pointing to receive buffers allocated to receive data from the network medium, and an automatic flow control mechanism for automatically performing flow control in accordance with the number of available receive descriptors pointing to the receive buffers available for receiving data from the network medium.

Fox is relied upon for disclosing the claimed elements.

Considering Fox, the reference discloses that when hardware receive descriptors are filled, incoming data cannot be received. In this case, a buffer descriptor overflow error occurs, an error counter is incremented and the error is reported to a fault management system (col. 7, lines 5-15).

Hence, the reference does not suggest automatically performing flow control in accordance with the number of available receive descriptors pointing to the receive buffers available for receiving data from the network medium.

As Chong also does not suggest such flow control operations, a combination of Chong with Fox is not sufficient to arrive at the claimed invention.

It is well settled that the test for obviousness is what the combined teachings of the references would have suggested to those having ordinary skill in the art. Cable Electric Products, Inc. v. Genmark, Inc., 770 F.2d 1015, 226 USPQ 881 (Fed. Cir. 1985). In determining whether a case of prima facie obviousness exists, it is necessary to ascertain whether the prior art teachings appear to be sufficient to one of ordinary skill in the art to suggest making the claimed substitution or other modification. In re Lalu, 747 F.2d 703, 705, 223 USPQ 1257, 1258 (Fed. Cir. 1984).

As discussed above, the teachings of Chong and Fox are not sufficient to suggest automatically performing flow control in accordance with the number of available receive descriptors pointing to the receive buffers available for receiving data from the network medium. Hence, the Examiner's conclusion of obviousness is not warranted.

Independent claim 19 recites a method of automatic flow control in a network interface between a data network and a computer system. The method comprises the steps of:

-monitoring the number of receive descriptors pointing to buffers in the computer system available for receiving data from the network, and

-automatically requesting a remote station in the data network to suspend data transmission when the number of receive descriptors falls below a first preprogrammed threshold level.

As discussed above, neither Chong nor Fox teaches or suggests automatically requesting a remote station in the data network to suspend data transmission when the number of receive descriptors falls below a first preprogrammed threshold level.

Hence, a combination of these references is not sufficient to suggest the invention recited in claim 19.
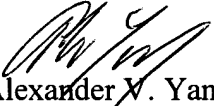
Claims 13-18, and 20-21 respectively depend from claims 12 and 19, and are defined over the prior art at least for the reasons presented above in connection with the respective independent claims.

In view of the foregoing, and in summary, claims 1, 4-21 are considered to be in condition for allowance. Favorable reconsideration of this application, as amended, is respectfully requested.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 500417 and please credit any excess fees to such deposit account.

Respectfully submitted,

MCDERMOTT, WILL & EMERY

Alexander V. Yampolsky
Registration No. 36,324

600 13th Street, N.W.
Washington, DC 20005-3096
(202) 756-8000 JAH:AVY:ed
Date: December 30, 2002
Facsimile: (202) 756-8087

1. (Amended) A computer system comprising:

a local bus,

a host processor coupled to the local bus,

a network interface for providing an interface between the local bus and a network medium, and

a memory coupled to the local bus, the memory having receive buffers allocated for receiving data from the network medium,

the network interface including an automatic flow control mechanism for automatically controlling a flow of data from the network medium based on availability of the receive buffers,

wherein in a first flow control mode initiated when a flow control mode signal is at a first logic level, the automatic flow control mechanism is configured to respond to a shortage of the receive buffers by automatically requesting a remote transmitter coupled to the network medium to suspend data transmission until a predetermined number of the receive buffers is available, and

in a second flow control mode initiated when the flow control mode signal is at a second logic level, the automatic flow control mechanism is configured to respond to a shortage of the receive buffers by automatically requesting the remote transmitter coupled to the network medium to suspend data transmission for a predetermined time.

4. The computer system of claim 1 [3], wherein the network interface comprises a descriptor management unit for managing receive descriptors pointing to the receive buffers.